

FORM PTO-1449
(REV. 7-85)

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Sheet 1 of 7

ATTY. DOCKET NO.
GY83A-DIV2
APPLICATION NO.
10/621,139
APPLICANT
WANG ET AL.
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JULY 16, 2003

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
FB	AA	5,413,999	5/9/95	J. P. Vacca, et al			
FB	AB	5,811,432	9/22/98	A. Marfat, et al			
FB	AC	5,124,327	6/23/92	W. J. Greenlee, et al			
FB	AD	5,424,329	6/13/95	D. H. Boschelli, et al			
FB	AE	5,023,265	6/11/91	M. H. Scherlock, et al			
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO	
FB	AM	EP 0484071A2	5/6/92	European Patent Application			<input type="checkbox"/>	<input type="checkbox"/>
FB	AN	WO 00/76521A1	12/21/00	PCT Application			<input type="checkbox"/>	<input type="checkbox"/>
FB	AO	EP 0530907A1	3/10/93	European Patent Application			<input type="checkbox"/>	<input type="checkbox"/>
FB	AP	WO 93/01181	1/21/93	PCT Application			<input type="checkbox"/>	<input type="checkbox"/>
FB	AQ	WO 95/04742	2/16/95	PCT Application			<input type="checkbox"/>	<input type="checkbox"/>
FB	AR	WO 96/11929	4/25/96	PCT Application			<input type="checkbox"/>	<input type="checkbox"/>

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, Etc.)

FB	AS	H. Hotoda, "Small-Molecule Inhibitors of HIV-1 Entry Via Chemokine Receptors," DRUGS OF THE FUTURE, 24(12), pp. 1355-1362, 1999
FB	AT	J. G. Sodroski, "HIV-1 Entry Inhibitors in the Side Pocket," CELL, 99, pp. 243-246, 1999
FB	AU	W. S. Blair, et al, "HIV-1 Entry - An Expanding Portal for Drug Discovery," DRUG DISCOVERY TODAY, 5(5), pp. 183-194, 2000

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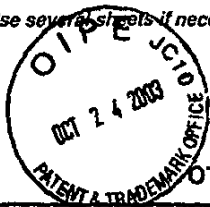
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FB	AV	B. A. Larder, et al, "Multiple Mutations in HIV-1 Reverse Transcriptase Confer High-Level Resistance to Zidovudine (AZT)," SCIENCE, 246, pp. 1155-1158, 1989
FB	AW	R. M. Gulick, "Current Antiretroviral Therapy: An Overview," QUALITY OF LIFE RESEARCH, 6, pp. 471-474, 1997
FB	AX	D. R. Kuritzkes, "HIV Resistance to Current Therapies," ANTIVIRAL THERAPY, 2 (Supplement 3), pp. 61-67, 1997
FB	AY	S. Morris-Jones, et al, "Antiretroviral Therapies in HIV-1 Infection," EXPERT OPINION ON INVESTIGATIONAL DRUGS, 6(8), pp. 1049-1061, 1997
FB	AZ	R. F. Schinazi, et al, "Mutations in Retroviral Genes Associated with Drug resistance," INTERNATIONAL ANTIVIRAL NEWS, 5(8), pp. 129-142, 1997
FB	BA	J. P. Vacca, et al, "Clinically Effective HIV-1 Protease Inhibitors," DRUG DISCOVERY TODAY, 2(7), pp. 261-272, 1997
FB	BB	D. Flexner, "HIV-Protease Inhibitors," DRUG THERAPY, 338(18), pp. 1281-1292, 1998
FB	BC	B. Berkhout, "HIV-1 Evolution Under Pressure of Protease Inhibitors: Climbing the Stairs of Viral Fitness," J. BIOMED. SCI., 6, pp. 298-305, 1999
FB	BD	S. Ren, et al, "Development of HIV Protease Inhibitors: A Survey," PROGRESS IN DRUG RESEARCH, 51, pp. 1-31, 1998
FB	BE	O. S. Pedersen, et al, "Non-Nucleoside Reverse Transcriptase Inhibitors: the NNRTI Boom," ANTIVIRAL CHEMISTRY & CHEMOTHERAPY, 10, pp. 285-314, 1999
FB	BF	E. De Clercq, "The Role of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) in the Therapy of HIV-1 Infection," ANTIVIRAL RESEARCH, 38, pp. 153-179, 1998
FB	BG	E. De Clercq, "Perspectives of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) in the Therapy of HIV-1 Infection," IL FARMACO, 54, pp. 26-45, 1999
FB	BH	M. Font, et al, "Indoles and Pyridazino[4,5-b]indoles as Nonnucleoside Analog Inhibitors of HIV-1 Reverse Transcriptase," EUR. J. MED. CHEM., 30, pp. 963-971, 1995

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		D. L. Romero, et al, J. MED. CHEM., 36, pp. 1505-1508, 1993
FB	BJ	S. D. Young, et al, "2-Heterocyclic Indole-3-Sulfones as Inhibitors of HIV-1 Reverse Transcriptase," BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, 5(5), pp. 491-496, 1995
FB	BK	M. J. Genin, et al, "Synthesis and Bioactivity of Novel Bis(Heteroaryl)Piperazine (BHAP) Reverse Transcriptase Inhibitors: Structure-Activity Relationships and Increased Metabolic Stability of Novel Substituted Pyridine Analogs," J. MED. CHEM., 39, pp. 5267-5275, 1996
FB	BL	R. Silvestri, et al, ANTIVIRAL CHEMISTRY & CHEMOTHERAPY, 9, pp. 139-148, 1998
FB	BM	A. Fredenhagen, et al, "Semiochliodinol A and B: Inhibitors of HIV-1 Protease and EGF-R Protein Tyrosine Kinase Related to Asterriquinones Produced by the Fungus Chrysosporium Merdarium," JOURNAL OF ANTIBIOTICS, 50(5), pp. 395-401, 1997
FB	BN	M. Kato, et al, "New 5-HT ₃ (Serotonin-3) Receptor Antagonists. IV. Synthesis and Structure-Activity Relationships of Azabicycloalkaneacetamide Derivatives," CHEM. PHARM. BULL., 43(8), pp. 1351-1357, 1995
FB	BO	V. Levacher, et al, "Broadening in the Scope of NADH Models by Using Chiral and Non Chiral Pyrrolo [2,3-b]Pyridine Derivatives," TETRAHEDRON, 47(3), pp. 429-440, 1991
FB	BP	I. Mahadevan, et al, "Synthesis of Pyrrolopyridines (Azaindoles)," J. HETEROCYCLIC CHEM., 29, pp. 359-367, 1992
FB	BQ	D. Hands, et al, "Convenient Method for the Preparation of 5-, 6- and 7-Azaindoles and Their Derivatives," SYNTHESIS, pp. 877-882, 1996
FB	BR	D. Dobson, et al, "The Synthesis of 7-Alkoxyindoles," SYNTHETIC COMMUNICATIONS, 21(5), pp. 611-617, 1991
FB	BS	T. Sakamoto, et al, "Condensed Heteroaromatic Ring Systems. XII. Synthesis of Indole Derivatives from Ethyl 2-Bromocarbanilates," CHEM. PHARM. BULL., 35(5), pp. 1823-1828, 1987
FB	BT	L. P. Shadrina, et al, "Reactions of Organomagnesium Derivatives of 7-Aza- and Benzindoles with Diethyl Oxalate and the Reactivity of Ethoxalylindoles," KHIM. GETEROTSIKL. SOEDIN., 9, pp. 1206-1209, 1987 (Russian)
FB	BU	T. V. Sycheva, et al, "Some Reactions of 5-Cyano-6-Chloro-7-Azaindoles and Lactam-Lactim Tautomerism in 5-Cyano-6-Hydroxy-7-Azaindoles," KHIM. GETEROTSIKL. SOEDIN., 1, pp. 100-106, 1987 (Russian)
FB	BV	H. Li, et al, "3-(Diethoxyphosphoryloxy)-1,2,3-Benzotriazin-4(3H)-one (DEPBT): A New Coupling Reagent with Remarkable Resistance to Racemization," ORGANIC LETTERS, 1(1), pp. 91-93, 1999

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FB	BW	M. Desai, et al, "A Convenient Preparation of 1-Aroylpiperazines," ORGANIC PREPARATIONS AND PROCEDURES INT., 8(2), pp. 85-86, 1976
FB	BX	M. Adamczyk, et al, "Synthesis of Procainamide Metabolites N-Acetyl Desethylprocainamide and Desethylprocainamide," ORGANIC PREPARATIONS AND PROCEDURES INT., 28(4), pp. 470-474, 1996
FB	BY	K. Rossen, et al, "Asymmetric Hydrogenation of Tetrahydropyrazines: Synthesis of (S)-Piperazine-2-Tert-Butylcarboxamide, an Intermediate in the Preparation of the HIV Protease Inhibitor Indinavir," TETRAHEDRON LETTERS, 36(36), pp. 6419-6422, 1995
FB	BZ	T. Wang, et al, "Benzoylation of Dianions: Preparation of Monobenzoylated Derivatives of Symmetrical Secondary Diamines," J. ORG. CHEM., 64, pp. 7661-7662, 1999
FB	CA	T. Wang, et al, "Regioselective Monobenzoylation of Unsymmetrical Piperazines," J. ORG. CHEM., 65, pp. 4740-4742, 2000
FB	CB	N. Harada, et al, "Synthesis and Antitumor Activity of Quaternary Salts of 2-(2'-Oxoalkoxy)-9-Hydroxyellipticines," CHEM. PHARM. BULL., 45(1), pp. 134-137, 1997
FB	CC	I. Antonini, et al, "Synthesis of 4-Amino-1-β-D-Ribofuranosyl-1H-Pyrrolo[2,3-b]Pyridine (1-Deazatubercidin) as a Potential Antitumor Agent," J. MED. CHEM., 25, pp. 1258-1261, 1982
FB	CD	S. W. Schneller, et al, J. ORG. CHEM., 45, pp. 4045-4048, 1980
FB	CE	M. Wozniak, et al, "Amination of 4-Nitroquinoline with Liquid Methylamine/Potassium Permanganate," CHEMISTRY OF HETEROCYCLIC COMPOUNDS, 34(7), pp. 837-840, 1998
FB	CF	S. Shiotani, et al, J. HETEROCYCLIC. CHEM., 34, pp. 901-907, 1997
FB	CG	S. Minakata, et al, "Regioselective Functionalization of 1H-Pyrrolo[2,3-b]Pyridine Via Its N-Oxide," SYNTHESIS, pp. 661-663, 1992
FB	CH	L. H. Klemm, et al, "Chemistry of Theinopyridines, XXIV. Two Transformations of Thieno[2,3-b]Pyridine 7-Oxide (1)," J. HETEROCYCLIC CHEM., 13, pp. 1197-1200, 1976
FB	CI	S. Shiotani, et al, "Furopyridines. XXXIII [1]. Synthesis and Reactions of Chloropyridine Derivatives of Furo[2,3-b]-, [2,3-c]- and -[3,2-c]Pyridine," J. HETEROCYCLIC CHEM., 34, pp. 925-929, 1997
FB	CJ	M. Hayashida, et al, "Deoxygenative 2-Alkoxylation of Quinoline 1-Oxide," HETEROCYCLES, 31(7), pp. 1325-1331, 1990

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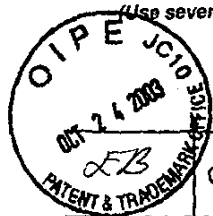
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FB	CK	Y. Miura, et al, "Synthesis of 2,3-Fused Quinolines From 3-Substituted Quinoline 1-Oxides, Part 1.," HETEROCYCLES, 34(5), pp. 1055-1063, 1992
FB	CL	M. A. Solekhova, et al, "A New Reaction of Reductive Amination of Quinoline N-Oxide with 2-Aminopyridine," ZH. ORG. KHIM., 32, p. 956, 1996 (Russian)
FB	CM	J. B. Regnoul de Vains, et al, "New Symmetric and Unsymmetric Polyfunctionalized 2,2'Bipyridines," J. HETEROCYCLIC CHEM., 31, pp. 1069-1077, 1994
FB	CN	Y. Miura, et al, "Synthesis of 2,3-Fused Quinolines from 3-Substituted Quinoline 1-Oxides, Part II.," HETEROCYCLES, 36(5), pp. 1005-1016, 1993
FB	CO	V. E. Profft, et al, "Über 4-Merkaptoverbindungen des 2-Methylpyridins," J. PRAKT. CHEM., 283(11), pp. 22-34, 1960 (German)
FB	CP	R. Nesi, et al, "A New One Step Synthetic Approach to the Isoxazolo[4,5-b]Pyridine System," SYNTHETIC COMMUNICATIONS, 22(16), pp. 2349-2355, 1992
FB	CQ	A. Walser, et al, "Quinazolines and 1,4-Benzodiazepines. 75. 7-Hydroxyaminobenzodiazepines and Derivatives," J. MED. CHEM., 19(12), pp. 1378-1381, 1976
FB	CR	G. Barker, et al, "Benzopyrones. Part I. 6-Amino- and 6-Hydroxy-2-Substituted Chromones," J. CHEM. SOC., pp. 2230-2233, 1970
FB	CS	N. R. Ayyangar, et al, "An Alternate Synthesis of 3,4-Diaminobenzophenone and of Mebendazole," ORG. PREP. PROCED. INT., 23(5), pp. 627-631, 1991
FB	CT	I. Mahadevan, et al, "Ambident Heterocyclic Reactivity: The Alkylation of Pyrrolopyridines (Azaindoles, Diazaindenes)," TETRAHEDRON, 49(33), pp. 7337-7352, 1993
FB	CU	T. Sakamoto, et al, "Palladium-Catalyzed Cyanation of Aryl and Heteroaryl Iodides with Copper(I)Cyanide," J. CHEM. SOC., PERKIN TRANS. 1, pp. 2323-2326, 1999
FB	CV	F. Halley, et al, "Synthesis of 5-Cyanoindazole and 1-Methyl and 1-Aryl-5-Cyanoindazoles," SYNTHETIC COMMUNICATIONS, 27(7), pp. 1199-1207, 1997
FB	CW	S. Yamaguchi, et al, "The Synthesis of Benzofuroquinolines. X. Some Benzofuro[3,2-c]isoquinoline Derivatives," J. HETEROCYCLIC CHEM., 32, pp. 1517-1519, 1995
FB	CX	D. J. Funhoff, et al, "Cyclo[d.e.d.e.d.e.d.e.]Decakisbenzene, a New Cycloarene," ANGEW CHEM., INT. ED. ENGL., 25(8), pp. 742-744, 1986

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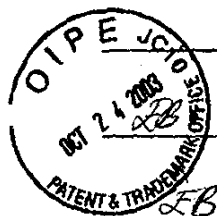
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FB	CY	V. Klimesova, et al, "Potential Antifungal Agents. Synthesis and Activity of 2-Alkylthiopyridine-4-Carbothioamides," EUR. J. MED. CHEM., 31, pp. 389-395, 1996
FB	CZ	A. R. Katritzky, et al, "Synthesis and Reactivity of 2,6-Diamino-4-Methyl-3-Pyridinecarbonitrile," J. HETEROCYCLIC CHEM., 32, pp. 979-984, 1995
FB	DA	M. Miletin, et al, "Synthesis of Some Anilides of 2-Alkyl-4-Pyridinecarboxylic Acids and Their Photosynthesis-Inhibiting Activity," COLLECT. CZECH. CHEM. COMMUN., 62, pp. 672-678, 1997
FB	DB	S. Shiotani, et al, "Furopyridines. XVII [1]. Cyanation, Chlorination and Nitration of Furo[3,2-b]Pyridine N-Oxide," J. HETEROCYCLIC CHEM., 33, pp. 1051-1056, 1996
FB	DC	A. El Hadri, et al, "A Convenient Synthesis of cis-4-(Sulfomethyl)-Piperidine-2-Carboxylic Acid: NMR Assignment," J. HETEROCYCLIC CHEM., 30, pp. 631-635, 1993
FB	DD	F. R. Heitzler, "Preparation of Non-Symmetrical 2,3-bis-(2,2'-Oligopyridyl)Pyrazines Via 1,2-Disubstituted Ethanones," SYNLETT., 8, pp. 1203-1206, 1999
FB	DE	T. Norrby, et al, "Regioselective Functionalization of 2,2'-Bipyridine and Transformations into Unsymmetric Ligands for Coordination Chemistry," ACTA CHEM. SCAND., 52, pp. 77-85, 1998
FB	DF	Sitsun'van, Borisova, E. Ya, et al, ZH ORG. KHIM., 31, pp. 1169-1172, 1995 (Russian)
FB	DG	S. H. Reich, et al, "Structure-Based Design and Synthesis of Substituted 2-Butanols as Nonpeptidic Inhibitors of HIV Protease: Secondary Amide Series," J. MED. CHEM., 39, pp. 2781-2794, 1996
FB	DH	Salfetnikova, Yu. N., et al, ZH. ORG. KHIM., 34, pp. 888-894, 1998 (Russian)
FB	DI	A. R. Oki, et al, "An Efficient Preparation of 4,4'-Dicarboxy-2,2'-Bipyridine," SYNTHETIC COMMUNICATIONS, 25(24), pp. 4093-4097, 1995
FB	DJ	N. Garelli, et al, "Synthesis of New Amphiphilic Perfluoroalkylated Bipyridines," J. ORG. CHEM., 57, pp. 3046-3051, 1992
FB	DK	J. Koyama, et al, "Diels-Alder Reaction of 1,2,3-Triazine with Aldehyde Enamine," HETEROCYCLES, 38(7), pp. 1595-1600, 1994
FB	DL	M. Yasuda, et al, J. HETEROCYCLIC CHEM., 24, pp. 1253-1260, 1987

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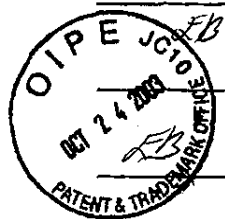
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DM	R. Levine, et al, "The Relative Reactivities of the Isomeric Methyl Pyridinecarboxylates in the Acylation of Certain Ketones. The Synthesis of β -Diketones Containing Pyridine Rings," J. AM. CHEM. SOC., 73, pp. 5614-5616, 1951
DN	M. Z. Hoemann, et al, "Solid-Phase Synthesis of Substituted Quinoline and Isoquinoline Derivatives Using Heterocyclic N-Oxide Chemistry," TETRAHEDRON LETTERS, 39, pp. 4749-4752, 1998
DO	M. H. Norman, et al, "Synthesis and Evaluation of Heterocyclic Carboxamides as Potential Antipsychotic Agents," J. MED. CHEM., 39, pp. 4692-4703, 1996
DP	B. S. Jursic, et al, "A Simple Preparation of Amides from Acids and Amines by Heating of Their Mixture," SYNTHETIC COMMUNICATIONS, 23(19), pp. 2761-2770, 1993
DQ	L. Strekowski, et al, "Synthesis and Structure-DNA Binding Relationship Analysis of DNA Triple-Helix Specific Intercalators," J. MED. CHEM., 39, pp. 3980-3983, 1996
DR	G. Shi, et al, "Metalated Fluoropyridines and Fluoroquinolines as Reactive Intermediates: New Ways for Their Regioselective Generation," TETRAHEDRON, 50(4), pp. 1129-1134, 1994
DS	G. K. Chen, et al, J. VIROL., 68(2), pp. 654-660, 1994
DT	G. J. Clark et al, "Synthetic Uses of the Sequential Ring Positional Reactivity in Pyridin-3-ol and Derivatives," AUST. J. CHEM., 34, pp. 927-932, 1981
DU	H. J. Anderson, et al, "Pyrrole Chemistry, XXII. A "One-Pot" Synthesis of Some 4-Acylpyrrole-2-Carboaldehydes From Pyrrole," CAN. J. CHEM., 58, pp. 2527-2530, 1980
DV	H. Suzuki, et al, "A General Synthetic Route for 1-Substituted 4-Oxygenated β -Carbolines (Synthetic Studies on Indoles and Related Compounds 41)," TETRAHEDRON, 53(5), pp. 1593-1606, 1997
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